

X.—REPORTS ON A COLLECTION OF  
BATRACHIA, REPTILES AND FISH  
FROM NEPAL AND THE WESTERN  
HIMALAYAS.

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Major, I.M.S., C.M.Z.S. ; and C. TATE REGAN, B.A.

INTRODUCTORY NOTE.

The specimens from Nepal recorded in these Reports were collected by Mr. R. Hodgart on behalf of the Indian Museum, which is much indebted to Major J. Manners-Smith, V.C., C.I.E., Resident in Nepal, for the assistance given. The specimens from Kumaon were collected at the same season as those from Nepal (in September and October, 1906) by myself, while those from the Simla district were obtained by a native collector and myself in April and May, 1907. The Nepalese localities mentioned are, for the most part, not to be found on any map. They are situated either in the neighbourhood of Katmandu, the capital of the state ; in the Little Nepal Valley, which lies between that in which the capital is situated and the outermost range of hills ; or in the Terai or sub-Himalayan plain. Only one or two specimens come from the last district, the majority being from the first. The specimens from Kumaon represent only two localities, Bhim Tal and Naini Tal, situated respectively at 4,500 and 6,400 feet ; while the Reptiles and Batrachia from the Simla district were caught, within fifty miles of the town, between 5,000 and 9,000 feet, mostly at 5,000 and at 8,000 feet.—N. ANNANDALE.

BATRACHIA.

By G. A. Boulenger, F.R.S.

1. *Leptobrachium monticola*, Gthr.

*Locality*—Soondrijal, Nepal.

2. *Bufo melanostictus*, Schn.

*Localities*—Chitlong and Soondrijal, Nepal ; Bhim Tal and Naini Tal, Kumaon ; Kathgodam, foot of the Kumaon hills.

[This is the common Toad in the Nepal Valley, from which there are other specimens in the Museum, and in Kumaon up

to 7,000 feet. I took a solitary tadpole of unusual size in a small pool above Naini Tal in October. As regards shape and dental formula it agreed closely with Flower's figure of a Malayan specimen (*Proc. Zool. Soc.*, 1896, p. 911, pl. xlv, fig. 3). Although this species has been recorded from 10,000 feet in Sikkim, the closely allied *B. himalayanus* is much more abundant in the Darjiling district between 5,000 and 7,000 feet.—N. A.]

### 3. *Rana cyanophlyctis*, Schn.

*Localities*—Soondrijal and Pharping, Nepal; Bhim Tal and the valley of the Balaya, Kumaon.

[This species is very abundant at the edge of the Bhim Tal (*tal*=lake) and in ditches by the roadside in the lower Balaya valley. In the Naini Tal its place appears to be taken by *R. vicina*. *R. cyanophlyctis* was seen in large numbers at Dharampur (altitude *circa* 5,000 feet) in the Simla hills at the beginning of May and several specimens were captured by my native collector. It has the habit of skipping over the surface of the water when alarmed (*cf.* Boulenger, *Faun. Brit. Ind., Rept.*, p. 450), and although it is usually stated to be an aquatic species, it is only so by daylight; at night it makes considerable journeys by land. When excavations are made during building operations in Calcutta and are filled by rain water, this frog makes its appearance in them almost at once, even when they are at a considerable distance from any permanent pool.—N. A.]

### 4. *Rana vicina*, Stol.

*Localities*—Naini Tal and the upper valley of the Balaya.

The series of specimens collected by Dr. Annandale removes all my doubts as to the identity of *R. blanfordi*, Blgr., and this species (*cf.* Boulenger, *Ann. Mag. Nat. Hist.* (7), xvi, p. 640, 1905). The web between the toes may extend, as a fringe, to the disc of the fourth toe; the tympanum may be more or less distinct; the tongue is but feebly notched behind, as noticed by Stoliczka; internal vocal sacks are present in the male.

[Common at the edge of the Naini Tal and in pools by the roadside in the Balaya Valley above 5,000 feet. It is largely aquatic in its habits, at any rate during the daytime. Specimens taken at the beginning of October appeared to be breeding; the females contained large ova, while the throats and thighs of the males were suffused with a bright claret-colour, which soon disappeared in spirit. In no example seen were nuptial excrescences developed. Specimens were also taken at the end of April in a small pool of a stream, the greater part of which had dried up, at Matiana (altitude 8,000 feet) in the Simla district. With them were tadpoles, probably of the same species. The tadpoles had large suckorial lips similar to those of the tadpole of *R. liebigii*, from which, however, they differed in dental formula.—N. A.]

5. *Rana tigrina*, Daud.

Localities—Soondrijal and Katmandu, Nepal (4,000 to 5,000 feet).

6. *Rana limnocharis*, Boie.

Localities—Soondrijal, Nepal ; Bhim Tal, Kumaon.

[A specimen was also taken at Dharampur in the Simla hills in May.—N. A.]

7. *Rana formosa*, Gthr.

Locality—Soondrijal, Nepal.

## LACERTILIA.

By N. Annandale, D.Sc.

The collection includes examples of nine species of this group, of which species two are new. The others are common Himalayan forms, the distribution of which is rendered considerably clearer by these specimens. The occurrence of the two allied skinks *Lygosoma himalayanum* and *L. sikkimense* in the same locality is of interest ; while the eastern limits of the range of *Agama tuberculata* can now be fixed with tolerable certainty.

1. *Hemidactylus nepalensis*, sp. nov.

One male specimen from Katmandu, Nepal : altitude 4,500 feet. Reg. No. Ind. Mus. Reptiles, 15779.

*Diagnosis*—

Allied to *Hemidactylus platyurus* (Schneid.) and to some extent intermediate between this species and *H. garnotii*, D. and B.

Head and body depressed ; tail slender, flat, tapering, denticulated at the edges. A distinct fold of skin along the sides, measuring about 1 mm. in breadth, and another along the hind limbs posteriorly. Head long, slender, the length of the snout slightly exceeding the distance between the eye and the external ear ; the extremity of the snout rounded. Toes webbed at the base ; all the digits well developed. Dorsal surface of head and body covered with minute rounded tubercles which are almost homogeneous, but are smaller on the snout than elsewhere ; dorsal surface of tail covered with minute imbricating scales ; subcaudals large ; ventral surface of belly covered with small imbricating leaf-shaped scales (about thirty in a transverse line across the middle of the body) changing gradually into minute tubercles on the throat. Nostril between the rostral and three small scales ; eight upper and eight lower labials ; one pair of chin shields meeting behind the mental and followed by several small scales on either side. An almost straight series of thirty femoral and præanal pores interrupted in the middle line. Three lamellæ under the inner, and seven under the middle posterior digit ; four under the inner, and six under the

middle anterior digit. The dorsal surface pale grey, marbled with a darker shade ; the ventral surface immaculate white.

Length of head	..	..	..	13 mm.
Breadth of head	..	..	..	8 „
Length of body	..	..	..	33 „
Length of tail	..	..	..	45 „
Breadth of tail at base	..	..	..	5 „
Length of anterior limb	..	..	..	12 „
Length of posterior limb	..	..	..	18 „

I take this opportunity to figure another Himalayan Gecko (*Gymnodactylus himalayicus*) recently described by me (*Journ. Asiat. Soc. Bengal*, 1906, p. 287).

### 2. *Acanthosaura major* (Jerd.).

I took a fine male of this rare species just outside the town of Simla at an altitude of about 8,000 feet. The coloration was very bright but otherwise agreed with the published descriptions ; there was a patch of pale lilac scales under the throat. The lizard was sunning itself on a bare bank by the roadside and appeared to be very sluggish.

### 3. *Acanthosaura kumaonensis*, sp. nov.

Several specimens of both sexes from Naini Tal and Mussoorie. Type Reg. No. Ind. Mus. Reptiles, 15755.

#### *Diagnosis*—

Small, slight ; the body feebly compressed ; the tail more than twice as long as the head and body, hardly compressed ; the adpressed hind limb reaching the tympanum. Snout slightly longer than the diameter of the orbit ; canthus rostralis and superciliary ridges angular ; forehead sloping, slightly concave. Dorsal and medial crests continuous, reduced in both sexes to a single row of strongly keeled scales ; no parallel rows of keeled scales on the back or sides. Scales on dorsal surface of head of different sizes, strongly keeled, not enlarged on the superciliary regions ; six or seven upper and six lower labials ; dorsal and lateral scales of two kinds, *viz.*, large, lozenge-shaped, strongly keeled tubercles and smaller imbricating scales with much feebler keels, the two being mingled irregularly ; ventrals leaf-shaped, imbricate, strongly keeled, larger than throat scales ; caudals strongly keeled, imbricate, of different sizes above, slightly enlarged below. Dorsal surface and sides marbled and blotched with various shades of grey and brown, with a series of large, dark angular marks on the mid-dorsal line ; a broad, dark triangular band extending from the eye to the ear, its apex directed towards the eye ; upper and lower lips vermicated with black, belly white, sometimes sprinkled with minute



black dots ; a small triangular patch of bright blue on the throat of the male (in October).

			♀	♂
Length of head	..	..	18 mm.	15 mm.
Breadth of head	..	..	12 „	10 „
Length of body	..	..	44 „	37 „
Length of tail	..	..	126 „	110 „
Length of hind limb	..	..	40 „	35 „
Length of fore limb..	..	..	26 „	22 „

*Remarks—*

I have known this lizard, which appears to be not uncommon in the neighbourhood of Naini Tal and Mussoorie, for some time but have hitherto regarded it as the young of *A. major*, from which it is really quite distinct. It is allied to *A. dymondi*, Boulenger, from which it is readily distinguished by the absence of parallel rows of keeled scales on the back. There are female specimens in the Museum, taken at Mussoorie in September or October, containing eggs. The only individual I have seen in life was a male ; it was caught climbing a tree in a garden in the town of Naini Tal. Another male was taken by Mr. L. L. Fermor at an altitude of about 6,000 feet in the same district. The species has evidently a restricted range, which probably does not extend beyond those parts of Kumaon and the Mussoorie district situated at moderate elevations.

4. *Acanthosaura tricarinata* (Blyth).

A single specimen from Chandragiri, Nepal : altitude 8,000 feet.

The dorsal surface of fresh specimens of this lizard has a livid green colour, which generally fades in spirit to greyish blue. The species is not uncommon at an altitude of 5,000 to 6,000 feet in British Sikhim.

5. *Calotes versicolor* (Daud.).

Several specimens from Katmandu.

This common species has a somewhat extensive range in the Himalayas. In British Sikhim it occurs at least as high as 7,000 feet, and I have seen it at about the same altitude in Kumaon. It is common at 5,000 feet in the Darjiling district and in the neighbourhood of Bhim Tal at a slightly lower altitude. Specimens from the Himalayas are generally small and have a somewhat depauperated appearance, the sexual characters being rather feebly developed ; but it is not always possible to distinguish between such specimens and examples from Lower Bengal. A female was found in May at Kurseong (5,000 feet) whose oviduct contained large eggs still devoid of a shell. In Calcutta the young are hatched at the beginning of the rains and apparently take at least two years to reach sexual maturity. The breeding season is in progress as early as April.

6. *Agama tuberculata*, Gray.

Several specimens from Chitlong, Little Nepal Valley, and two from near Simla (8,000 feet).

In Kumaon this species is common as low as 4,000 feet, and I have seen it even lower. It has been taken, however, in the western Himalayas as high as 12,000 feet. It would appear to range considerably further east in the Himalayas than any other species of the genus; but *Agama himalayana*, which was originally described from Ladak, is found, north of the hills, in the Lhasa district. Despite the fact that it must be able to endure a very low temperature when hibernating during winter, *A. tuberculata* is sensitive to cold while active. It is found as a rule on bare rocks, and even on the walls of houses, on which the sun is shining. Even a passing cloud causes it to retire immediately. The posterior surface of the thighs and the throat were suffused with sky-blue in male specimens taken (both in Nepal and in Kumaon) in September and October. The young are apparently hatched at that time of year in Nepal.

We have long had in the Museum specimens of the species from Kashmir and from Quetta. The species is abundant in the Simla hills, but specimens from this district differ in colour from those taken in Kumaon and Nepal. In the eastern race the dorsal surface is of a very dark slate-colour, with numerous spots and blotches of yellow; while in the Simla form the back is of a rather pale brownish-grey with fewer and less conspicuous spots. The Simla form is more wary and agile than the eastern one.

7. *Mabuia macularia* (Blyth).

A single specimen from the Terai (sub-Himalayan plain) near Raxaul.

8. *Lygosoma sikkimense*, Blyth.

Numerous specimens from Chitlong, Little Nepal Valley, and one from Katmandu.

This species appears to be as common in the Little Nepal Valley as it is in British Sikhim. There is no evidence that it ranges further west than Nepal and it is certainly replaced in Kumaon by *Lygosoma himalayana*. I recently recorded a specimen from Simla (*Journ. Asiat. Soc. Bengal*, 1905, pp. 146, 149), but a re-examination of this specimen which is in a bad state of preservation, convinces me that I was wrong in my identification. *L. sikkimense* is fond of sunning itself on stones and dry paths.

9. *Lygosoma himalayana* (Günth.).

A single specimen from Chitlong.

This specimen (plate vi, fig. 3) is not quite typical. Its total length is 168 mm., of which the tail accounts for 108 mm.; the colours are brighter than usual and the longitudinal streaks more conspicuous, but it is difficult to find any very definite difference

in this respect. There are no projecting lobules or granules at the edge of the ear opening. On the whole, I cannot say that there is any distinction between this specimen and others from further west which would justify its being regarded as representing even a local race; but it is certainly larger and brighter than the majority of specimens I have examined. It has thirty scales round the middle of the body. The "obscure dark edging" of the ventral scales of this species to which I have referred in the paper cited above, appears to be entirely due to bad preservation of the specimens examined. *L. himalayanum* is by far the commonest skink in Kumaon between 4,000 and 7,000 feet. There are specimens in the Indian Museum said to come from the plains, but their history is one which has proved untrustworthy in other instances and I think that the locality attributed to them is incorrect. The habits of *L. himalayanum* differ somewhat from those of *L. sikkimense*, as the former appears to avoid the sun and is often found in rather damp situations. It is very abundant on the banks of the lake at Naini Tal (6,400 feet) and in gardens in the town of Simla, in the neighbourhood of which it is common at least as high as 9,000 feet. Males taken in this district in April and May had a lateral stripe of orange or bright reddish-brown running along the body below the dark lateral band. This conspicuous stripe was absent from females taken at the same season and from specimens of both sexes examined in Kumaon in autumn. The oviducts of the females contained eggs in May but not in September.

#### EXPLANATION OF PLATE VI.

FIG. 1.—*Gymnodactylus himalayicus*, Annandale.

FIG. 2.—*Hemidactylus nepalensis*, sp. nov.

FIG. 3.—*Lygosoma himalayanum* (Günther), from the Little Nepal Valley.

FIG. 4.—*Lygosoma sikkimense*, Blyth, from the same locality.

#### OPHIDIA.

By F. Wall, Major, I.M.S., C.M.Z.S.

I am indebted to Dr. N. Annandale for giving me an opportunity of examining a small collection of snakes from Nepal, and permitting me to make the following remarks upon them.

Among the twenty specimens, eleven species are represented, most of which are common.

The names used are those applied by Boulenger in his *Catalogue of Snakes in the British Museum*, 1893-96.

The specimens are as follows :—

##### 1. *Python molurus*.

The head and part of the body are preserved of a small example from Bichiakoh, Nepal Terai.

[Occurs at least as high as 5,000 feet in Kumaon, and is said to be found occasionally at Darjiling (6,000 feet)<sup>1</sup>.—N. A.]

2. *Tropidonotus piscator.*

There are two examples from Pharping (5,000 feet). These are greenish olive, and somewhat indistinctly chequered, the darkish spots being ill defined and smaller than the interspaces.

[Common in the Bhim Tal.—N. A.]

3. *Tropidonotus platyceps.*

An example from Pharping (5,000 feet). Quite typical.

4. *Tropidonotus stolatus.*

Four examples from Gowchar and Pharping (5,000 feet). Quite typical.

[Common at Bhim Tal.—N. A.]

5. *Tropidonotus chrysargus.*

Two small specimens from Chitlong, Little Nepal Valley, I have little hesitation in referring to this species. They are nearly uniform olive-green in colour, with two white dots on the head, one on each parietal shield. The upper lip is white, abruptly defined above. The labial sutures are not pigmented. In A specimen the chin shields are finely specked with grey; in B purely white. There are some shield differences between the two specimens which, however, I do not consider sufficient to separate them, as they agree in other respects.

*A specimen.*—Ventrals 173. Subcaudals 80. Nasal shields touch the first supralabial only. Temporals 2 + 2.

*B specimen.*—Ventrals 184? Subcaudals 88. Nasal shields touch the first and second supralabials. Temporals 1 + 1.

The scales in both are 19 in anterior and midbody, 17 at a point two headlengths before the vent. The labials are 8, with the third, fourth and fifth touching the eye in both specimens.

6. *Trachischium tenuiceps.*

Two quite typical specimens are from Chandragiri (8,000 feet).

7. *Lycodon aulicus.*

One example of Boulenger's Variety D (*Catalogue*, vol. i, p. 353) from Katmandu, Nepal Valley (4,500 feet).

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<sup>1</sup> Rai Bahadur R. B. Sanyal tells me that he has seen a specimen killed near the town of Darjiling.—N. A.



8. *Zamenis mucosus*.

There are two specimens, one from Gowchar, the other from Kakani, Nepal.

9. *Dipsadomorphus multifasciatus*.

With little hesitation I refer two specimens obtained from Chitlong to this species.

Both agree in the following ways : The scales are 21 in anterior and midbody, 15 at a point two headlengths before the vent. The vertebral row at midbody is but moderately enlarged. The præocular is well separated from the frontal. The supralabials eight, with the third, fourth, and fifth touching the eye. Temporals two anterior. Posterior sublinguals quite separated by two small pairs of scales. The horizontal diameter of the eye equals its distance from the anterior edge of the nostril. They are both marked with oblique, equidistant, costal dark lines.

A specimen is pinkish-brown, almost dove coloured. The ventrals are 233 and the subcaudals 106 ?

B specimen is pink. The ventrals are 232 and subcaudals 102.

10. *Lachesis monticola*.

Two good examples are from Kakani and Chitlong, and quite typical. In A specimen the scales are 23 in the anterior and midbody, 21 at a point two headlengths before the vent. The ventrals are 153, subcaudals more than 40 (tail imperfect).

B specimen has the scales 23 in the anterior and middle parts of the body, 19 at a point two headlengths before the vent. The ventrals are 148 and subcaudals 48.

11. *Lachesis gramineus*.

One example from Katmandu (4,500 feet). It is uniform green dorsally, with a white flank line continued well on to the tail. The belly is greenish posteriorly, white anteriorly. The ventrals are 170, and subcaudals 57. Scales 21 in midbody.

[Major Manners-Smith tells me that it is a common belief in Nepal that there are no poisonous snakes in that country. In Sikhim and Kumaon, however, the cobra, the hamadryad, and Russell's viper are known to range to a considerable altitude. The only snake which I saw in the Simla district was *Ancistrodon himalayanum*, a specimen of which was killed by my companion Mr. I. H. Burkill at an altitude of about 9,000 feet near Matiana.—N. A.]

## FISHES.

By C. Tate Regan, B.A.

The fishes sent by Dr. N. Annandale have been referred to seven species, one of which is new to science.

## CYPRINIDÆ.

1. *Barbus ticto*, Ham. Buch., Bhim Tal (lake), Kumaon, 4,500 feet.

2. *Oreinus richardsonii*, Gray and Hardw., Soondrijal, Nepal.

3. *Diptychus annandalei*, sp. n.

Depth of body  $3\frac{2}{3}$  to 4 in the length; length of head  $3\frac{3}{5}$  to 4. Snout as long as or shorter than eye, the diameter of which is 3 (young) to  $3\frac{2}{3}$  in the length of head, and nearly equal to the inter-orbital width. Two barbels on each side, the anterior much shorter than the posterior, which is not, or scarcely longer, than half the diameter of eye. Body nearly entirely naked. Dorsal II 8; origin equidistant from snout (young) or middle of eye and base of caudal, longest ray about  $\frac{3}{5}$  the length of head; free edge of the fin straight. Anal II 6, when laid back not reaching the caudal; free edge slightly convex. Pectoral  $\frac{2}{3}$  the length of head, not reaching the ventrals, which are inserted below the origin of the dorsal. Caudal forked. Caudal peduncle  $1\frac{1}{4}$  to  $1\frac{1}{2}$  as long as deep. Greyish; a few dark spots on the sides; a dark lateral stripe; dorsal and caudal dusky, lower fins pale.

Total length, 70 mm.

Pharping, Nepal.

The description is based on three specimens; the species differs from others of the genus in having two pairs of barbels.

4. *Basilius bendelisis*, Ham. Buch., Bhim Tal (lake).

## SILURIDÆ.

5. *Saccobranchus fossilis*, Bl., Katmandu.

6. *Euchiloglanis blythii*, Day, Pharping.

In a recent paper (*Ann. Mag. N. H.* (7), xv, 1905, pp. 182-185) I have shown that the fishes which have been usually placed in the genus *Exostoma*, Blyth, fall into three very distinct groups which should be regarded as genera. For one of these I revived the name *Chimarrichthys*, Sauv., 1874, but as was pointed out by O'Shaughnessy (*Zool. Record*, 1874) this is preoccupied, and I therefore propose to substitute for it the new generic name *Euchiloglanis*.

## OPHIOCEPHALIDÆ.

7. *Ophiocephalus punctatus*, Bl., Bhim Tal (lake), Pharping and Katmandu.

